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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,921	03/13/2001	John Joseph Konrad	END9-2000-0077US1	2770

7590 01/30/2002

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EXAMINER

VU, QUYNH NHU H

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 01/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/804,921

Applicant(s)

KONRAD ET AL.

Examiner

Quynh-Nhu H. Vu

Art Unit

2841 2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 11-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's election without traverse of Group I (claims 1-10) in Paper No. 4 is acknowledged.
2. Claims 11-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 4.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-4 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Tani et al. [US 6,335,077].

Tani et al. disclose in Fig. 1 (also see attach for details) an electronic structure comprising: a first dielectric layer (3, lower layer) of polymeric material (col. 4, lines 58-62, it is noted that polyvinyl butyral is polymeric material) having a first top surface; a second dielectric layer (3) of polymeric material on the first top surface of said first dielectric layer of polymeric material, having a second top surface, said second layer of polymeric material also having trench (5) features therein; and electrically conductive material deposited in said trench features forming electrically conductive circuit lines being substantially flush with said second top surface of said second dielectric of polymeric dielectric material.

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As to claim 2, a third dielectric layer (3, middle layer) of dielectric polymeric material located on the conductive circuit line.

As to claims 3-4, wherein the electrically conductive material is copper.

As to claim 10, at least two of the structure of claim 1 stacked together.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tani et al in view of Kunota et al. [US 6,183,669].

As to claims 5-6, Tani et al. disclose all claimed subject matter except for a polymeric material of first dielectric layer different than a polymeric material of second dielectric layer.

Kubota et al. disclose in Fig. 1 a polymeric material of first dielectric layer (2c) (i.e., polyvinyl alcohol) different material of polymeric material of second dielectric layer (3) (i.e., polyvinyl butyral) (see col. 10, line 57- col. 11, line 9; col. 12, lines 40-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ the polymeric material of the first dielectric layer different than the second dielectric layer, as taught by Kunota et al., for obtaining excellent dispersing property and processing performance and enhancing development ability of insulating or dielectric layer. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to the material of first dielectric different than the second dielectric layer,

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since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

7. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tani et al.

Tani et al. do not disclose the circuit line about 0.5 to 1 mil wide, 0.5 to 2 mils apart and up to 20 micron thick. However, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ the dimension of circuit line listed above, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quynh-Nhu H. Vu whose telephone number is 703-305-0850. The examiner can normally be reached on 7:30-5:00 (M-F).

ke If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ^{Dave Talbot} ~~Jeffrey Gaffin~~ can be reached on 703-^{305 9883} ~~308-3304~~. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

QNV
January 14, 2002

Keun
Keun
Primary Examiner

FIG. 1

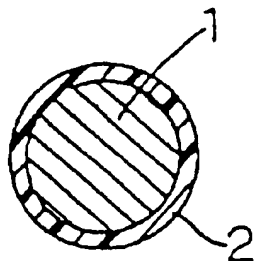


FIG. 2

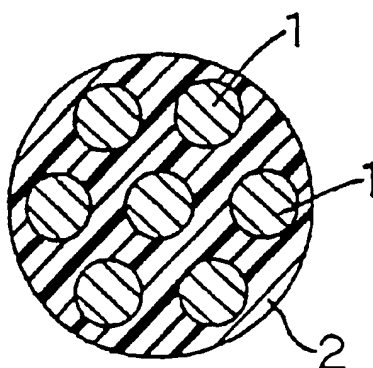


FIG. 3

